IN THE CLAIMS

Please amend the claims as follows:

1. (cancelled)

2. (new) A system simulator for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs, comprising:

obtaining impedance values Z1L of a first source block , impedance value Z2R from a second source block and impedance value Z3R from a third source block by a property propagation methodology;

calculating impedance value Z1R of the first source block from the values for Z2R from the second source block, Z3R from the third source block and back propagating the value of Z1R to an input node for the first source block;

calculating impedance values for Z2L of the first source block from the values for Z1R from the first source block, Z3R from the third source block and back propagating the value of Z2L to an output node for the first source block;

calculating impedance values for Z3L of the first source block from the values for Z1R from the first source block, Z2R from the second source block and back propagating the value of Z3L to an output node for the first source block;

propagating the impedance values for Z2L to the second source block and the new impedance value Z3L to the third source block; and

calculating a value for MMA for the first source block, a value for MMB for the second source block and a value for MMC for the third source block.

3. (new) The system simulator for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 2, further comprising calculating a minimum and a maximum operating frequency values for the source block.

4. (new) The system simulator for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 3, further comprising storing the minimum and maximum operating frequency values of the source block in the system simulator.

5. (new) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 4, further comprising determining on each propagation pass whether a new minimum or a new maximum operating frequency value obtained from the propagation pass is less the minimum operating frequency value or more than the maximum operating frequency value that is stored in the system simulator, and if so, updating the stored minimum operating frequency value with the new minimum operating frequency value and updating the stored maximum operating frequency value with the new maximum operating frequency value.

6. (new) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 5, further comprising generating a global mismatch frequencies from a discrete set of frequencies having a range of resolution between the minimum operating frequency value and maximum operating frequency value.

7. (new) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 6, where the global mismatch frequencies are complex, frequency dependent values.

8. (new) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 6, further comprising calculating corrections values on the source block input signal.

9. (new) A system simulator for calculating the impedance mismatch of a source block having a plurality of inputs and at least one outputs, comprising:

obtaining impedance values Z1L of a first source block , impedance value Z2L from a second source block and impedance value Z3R from a third source block by a property propagation methodology;

calculating impedance value Z1R of the first source block from the values for Z2R from the second source block, Z3R from the third source block and back propagating the value of Z1R to an input node for the first source block;

calculating impedance values for Z2R of the first source block from the values for Z1L from the first source block, Z3R from the third source block and back propagating the value of Z2R to an output node for the first source block;

calculating impedance values for Z3L of the first source block from the values for Z1L from the first source block, Z2L from the second source block and back propagating the value of Z3L to an output node for the first source block;

propagating the impedance values for Z2L to the second source block and the new impedance value Z3L to the third source block; and

calculating values for MMA1 and MMA2 for the first source block, and a value for MMB for the third source block.

10. (new) The system simulator for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 9, further comprising calculating a minimum and a maximum operating frequency values for the source block.

11. (new) The system simulator for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 10, further comprising storing the minimum and maximum operating frequency values of the source block in the system simulator.

12. (new) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 11, further comprising determining on each propagation pass whether a new minimum or a new maximum operating frequency value obtained from the propagation pass is less the minimum operating frequency value or more than the maximum operating frequency value that is stored in the system simulator, and if so, updating the stored minimum operating frequency value with the new minimum operating frequency value and

updating the stored maximum operating frequency value with the new maximum operating frequency value.

13. (new) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 12, further comprising generating a global mismatch frequencies from a discrete set of frequencies having a range of resolution between the minimum operating frequency value and maximum operating frequency value.

14. (new) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 13, where the global mismatch frequencies are complex, frequency dependent values.

15. (new) The system simulator system for calculating the impedance mismatch of a source block having at least one input and a plurality of outputs of claim 14, further comprising calculating corrections values on the source block input signal.